Query Expansion Using Conceptual Knowledge in Computer Science

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Traditional information retrieval systems retrieve documents based on keyword based matching, thereby incapable to provide results according to user information needs. These systems do not consider the semantic relationships among the user query keywords, thus cannot interpret the query context accurately. Query Expansion technique enhances the performance of information retrieval process by expanding user query with relevant meaningful concepts. Ontology represents semantics of a domain, and emerges as an important resource for query expansion. In this paper, we propose a query expansion framework based on conceptual knowledge derived from ontology in the domain of computer science. The system prototype results show good average precision percentage of 89.2% over keyword based search.

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